

NEW SYNONYMY AND RECORDS OF AMERICAN BARK BEETLES (COLEOPTERA: SCOLYTIDAE)

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ABSTRACT.— New synonymy affecting American Scolytidae is proposed as follows: *Acanthotomicus granulatus* (Ferrari), n. comb. (= *Mimips uncinatus* Wood). *Araptus deyrollei* (Blandford), new comb. (= *Araptus insinuatus* Wood). *Cnesinus adustus* Schedl (= *Cnesinus atrodeclivis* Wood). *Corthylocurus mexicanus* (Schedl), n. comb. (= *Corthylus cylindricus* Schedl). *Corthylus collaris* Blandford (= *Corthylus splendens* Wood). *Corthylus comatus* Blandford (= *Corthylus spendidus* Bright). *Corthylus uniseptis* Schedl (= *Corthylus reburrus* Bright). *Dendrocranulus carbonarius* (Ferrari), n. comb. (= *Xylocleptes floridensis* Hopkins, *Xylocleptes anonae* Hopkins). *Dendrocranulus maurus* (Blandford), n. comb. (= *Dendrocranulus huehuetanus* Schedl). *Dendroctonus valens* LeConte (= *Dendroctonus rhizophagus* Thomas and Bright). *Gymnochilus consocius* (Blandford), n. comb. (= *Problechilus trimaculatus* Schedl). *Gymnochilus minor* (Blandford), n. comb. (= *Problechilus varius* Schedl). *Gymnochilus zonatus* Eichhoff (= *Problechilus freyi* Schedl). *Hypothenemus arecae* (Hornung) (= *Hypothenemus vaser* Blandford). *Hypothenemus eruditus* Westwood (= *Cryphalus obscurus* Ferrari). *Micracis grandis* Schedl (= *Micracis costaricensis* Wood). *Micracis swainei* Blackman (= *Micracis robustus* Schedl). *Micracis pygmaeus* Schedl). *Microcorthylus parvulus* Ferrari (= *Pterocyclon exile* Eichhoff). *Monarthrum bicolor* (Ferrari), n. comb. (= *Corthylus signatus* Ferrari, *Phthorinus edentatus* Hagedorn). *Monarthrum consimile* (Blandford), n. comb. (= *Pterocyclon pseudosulcatum* Schedl). *Monarthrum egenum* (Blandford), n. comb. (= *Brachyspartus bisetosus* Schedl). *Monarthrum fimbriticorne* (Blandford) (= *Pterocyclon turbinatum* Schedl). *Monarthrum gnarum* (Schedl), n. comb. (= *Amphicranus spinatus* Bright). *Monarthrum validum* (Ferrari), n. comb. (= *Amphicranus mexicanus* Eggers, *Pterocyclon jalapae* Schedl). *Phloeoborus scaber* Erichson (= *Phloeoborus opacithorax* Schedl). *Phloeosinus serratus* (LeConte) (= *Phloeosinus rugosus* Swaine). *Phloeotribus setulosus* Eichhoff (= *Phloeotribus rudis* Eichhoff, *Phloeotribus sodalis* Blandford, *Phloeotribus bolivianus* Eggers). *Pycnarthrum reticulatum* Schedl (= *Pycnarthrum fici* Wood). *Scolytodes rugicollis* (Schedl), n. comb. (= *Scolytodes plicatus* Wood). *Xylosandrus morigerus* (Blandford) (= *Xyleborus luzonicus* Eggers). New names are proposed as follows: *Araptus decorulus* for *Araptus decorus* Wood. *Cnemonyx nigrellus* for *Loganius niger* Wood, *Monarthrum bicoloratum* for *Monarthrum bicolor* Wood. *Araptus sobrinus*, n. sp. (Mexico), and *Dendroctonus vitei*, n. sp. (Guatemala), are named as new to science. *Dendroctonus mexicanus* Hopkins is removed from synonymy.

During the preparation of a taxonomic monograph of the Scolytidae of North and Central America, the unpublished synonymy summarized in the above abstract and treated on the following pages was encountered. In order to stabilize nomenclature and fix established names, several lectotypes are designated.

Specimens or series referred to in the discussion are in my collection unless a definite statement indicates otherwise. The species are arranged in alphabetical order except that those described as new to science are presented at the end of the article.

Acanthotomicus granulatus (Ferrari), n. comb.

Xylocleptes granulatus Ferrari, 1867. Die Forst- und Baumzuchtschädlichen

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Borkenkäfer, p. 40 (Lectotype, male; Venezuela, probably at Colonia Tovar; Vienna Mus., present designation).

Mimips uncinatus Wood, 1971, Brigham Young Univ. Sci. Bull., Biol. Ser. 15(3):41 (Holotype, male; Colonia Tovar, Aragua, Venezuela; Wood Coll.).
New synonymy

The type series of four specimens of *Xylocleptes granulatus* Ferrari collected by Moritz in 1858 was compared directly to the type series of *Mimips uncinatus* Wood. They are identical in every respect. It is a common species in the vicinity of the Moritz home at Colonia Tovar; it was not found in the Caracas area where Moritz lived at an earlier date.

Araptus decorulus, n. n.

Araptus decorus Wood, 1974 (nec. Bright, 1972), Brigham Young Univ. Sci. Bull., Biol. Ser. 19(1):47 (Holotype, male; Rincon de Osa, Puntarenas, Costa Rica; Wood Coll.).

Araptus decorus Wood is a junior homonym of *Neodryocoetes decorus* Bright (1972, Bull. Inst. Jamaica, Sci. Ser. 21:96), because the genera to which they belong have been synonymized. The new name *Araptus decorulus* is proposed as a replacement for *decorus* Wood.

Araptus deyrollei (Blandford), n. comb.

Pityophthorus deyrollei Blandford, 1904, Biol. Centr. Amer., Coleopt. 4(6):245 (Lectotype, male; Mexico; British Mus. Nat. Hist., present designation).

Araptus insinuatus Wood, 1974, Brigham Young Univ. Sci. Bull., Biol. Ser. 19(1):43 (Holotype, male; Guatemala; Wood Coll.). *New synonymy*

Blandford named *Pityophthorus deyrollei* from two syntypic specimens taken in Mexico. Unfortunately these specimens were not available for loan at the time my study of this genus was made for the monograph, and I depended on specimens identified by other authors for my concept of Blandford's species. When the types were studied it was found that *deyrollei* is identical to *Araptus insinuatus* Wood. The first specimen in Blandford's series, a male, is here designated as the lectotype of *deyrollei*.

Cnemonyx nigrellus, n. n.

Loganius niger Wood, 1961 (nec. Eggers, 1933), Great Basin Nat. 21:95 (Holotype, female; 26 km W Tehuantepec, Oaxaca, Mexico; Wood Coll.).

Both *Ceratolepsis niger* Eggers (1933, Trav. Lab. Ent. Paris, Mem. 1:13) and *Loganius niger* Wood have been transferred to the genus *Cnemonyx* (Wood, 1972, Bull. Ent. Res. 62:344), thus creating homonymy. The new name *nigrellus* is proposed to replace the junior name, *niger* (Wood).

Schedl (1962, Beitr. Ent. 12:486) previously transferred *Ceratolepsis niger* Eggers to the genus *Camptocerus* and thus created secondary homonymy with *Camptocerus niger* (Fabricius). He then renamed Eggers's species *Camptocerus nigricans* Schedl. However,

the type of the Eggers species is not congeneric with the type of the Fabricius species; consequently, the replacement name *nigricans* must be rejected and Eggers name restored to its original position.

Cnesinus adustus Schedl

Cnesinus adustus Schedl, 1949, Rev. Brasil. Biol. 9:266 (Lectotype, female; Turrialba, Costa Rica; Schedl Coll., present designation).

Cnesinus atrodeclivis Wood, 1968, Great Basin Nat. 28:108 (Holotype, female; Zamorano, Morazan, Honduras; Wood Coll.). *New synonymy*

Schedl named *adustus* from a syntypic series of females. The specimen in his collection labeled "Holotype" is here designated as the lectotype of the species. This lectotype was compared directly to the holotype of *atrodeclivis* Wood; only one species is represented by this material.

Corthylocurus mexicanus (Schedl), n. comb.

Brachyspartus mexicanus Schedl, 1950, Dusenian 1:163 (Holotype, male; Comitán, Chiapas, Mexico; Schedl Coll.).

Corthylyus cylindricus Schedl, 1963, Ent. Arb. Mus. Frey 14:164 (Holotype, female; Jalapa, Veracruz, Mexico; Schedl Coll.). *New synonymy*

Several long series of this species were taken in Mexico, Guatemala, Costa Rica, and Panama. A male and a female in my collection taken with a series from the same branch were compared directly to the holotypes of *Brachyspartus mexicanus* Schedl and *Corthylyus cylindricus* Schedl and were identical in all respects. Since these two names apply only to the opposite sexes of the same species, the name *cylindricus* must be placed in synonymy.

Corthylyus collaris Blandford

Corthylyus collaris Blandford, 1904, Biol. Centr. Amer. Coleopt. 4(6):261 (Holotype, male; Cerro Zunil, Guatemala; British Mus. Nat. Hist.).

Corthylyus splendens Wood, 1967, Great Basin Nat. 27:138 (Holotype, female; 16 km SE Cartago, Cartago, Costa Rica; Wood Coll.). *New synonymy*

The holotypes of *collaris* Blandford and *splendens* Wood were examined. In addition, 43 specimens from Guatemala and 109 specimens from Costa Rica were studied. The northern and southern material can be distinguished by the small differences outlined in the description of *splendens*. However, in the absence of material from intermediate areas, it appears advisable to place *splendens* in synonymy until the existence of geographical races can be more conclusively demonstrated.

Corthylyus comatus Blandford

Corthylyus comatus Blandford, 1904, Biol. Centr. Amer. Coleopt. 4(6):258 (Holotype, female; Cerro Zunil, Guatemala; British Mus. Nat. Hist.).

Corthylyus splendidus Bright, 1972, Canadian Ent. 104:1371 (Holotype, female; 5.6 km or 3.5 miles S Suchixtepec, Oaxaca, Mexico; Canadian Nat. Coll.). *New synonymy*

The holotypes of *comatus* Blandford and *splendidus* Bright were compared to my material from Mexico, Guatemala, Costa Rica, and Panama. I am unable to find any character that provides a means of subdividing this common species; consequently, the name *splendidus* is placed in synonymy.

Corthylus uniseptis Schedl

Corthylus uniseptis Schedl, 1961, Pan Pacific Ent. 34:229 (Holotype, male; Cordoba, Veracruz, Mexico; California Acad. Sci.).

Corthylus reburrus Bright, 1972, Canadian Ent. 104:1375 (Holotype, female; Palenque Ruins, Chiapas, Mexico; Canadian Nat. Coll.). *New synonymy*

The male holotype of *uniseptis* Schedl was compared directly to a topotypic male paratype of *reburrus* Bright. Except for the slightly lighter color of the dark brown *uniseptis* type I see no difference between the two specimens. Since the slight degree of color difference has no taxonomic value in this section of the genus, only one species is represented by these names.

Dendrocranulus carbonarius (Ferrari), n. comb.

Xylocleptes carbonarius Ferrari, 1867, Die Forst- und Baunzuchtschädlichen Borkenkäfer. p. 41 (Holotype, male; Cuba; Vienna Mus.).

Xylocleptes floridensis Hopkins, 1915, U.S. Dept. Agric. Rept. 99:43 (Holotype, female; Biscayne Bay, Florida; U.S. Nat. Mus.). *New synonymy*

Xylocleptes anonae Hopkins, 1915, U.S. Dept. Agric. Rept. 99:43 (Holotype, female; Florida; U.S. Nat. Mus.). *New synonymy*

The holotypes of *carbonarius* (Ferrari), *floridensis* (Hopkins), and *anonae* Hopkins were compared directly to my series from Cuba. Only one species is represented by these names.

Dendrocranulus maurus (Blandford)

Dryocoetes maurus Blandford, 1898, Biol. Centr. Amer., Coleopt. 4(6):191 (Holotype, female; El Tumbador, San Marcos, Guatemala; British Mus. Nat. Hist.).

Dendrocranulus huehuetanus Schedl, 1940, An. Esc. Nac. Cienc. Biol., Mexico 1:344 (Lectotype, male; Huehuetán, Chiapas, Mexico; Schedl Coll., present designation). *New synonymy*

The male syntype from Huehuetán that was labeled by Schedl as the male "type" is here designated as the lectotype of *Dendrocranulus huehuetanus* Schedl. That lectotype was compared directly to my series of *maurus* (Blandford) which was compared directly to the holotype of this species in 1965. Since they represent the same species, Schedl's name must be placed in synonymy.

Dendroctonus valens LeConte

Dendroctonus valens LeConte, 1860, Pacific R. R. Expl. 5(2):59 (Holotype, male; San Francisco, California; Mus. Comp. Zool.).

Dendroctonus rhizophagus Thomas and Bright, 1970, Canadian Ent. 102:479 (Holotype, male; 16 km or 10 miles SW El Salto, Durango, Mexico; Canadian Nat. Coll.). *New synonymy*

The name *rhizophagus* Thomas and Bright was proposed for a long series of small specimens taken from the roots of pine seedlings during a severe drought near El Salto, Durango, in 1964. In 1965, I was unable to find specimens in seedlings at the same locality. All of the *Dendroctonus* taken in the area by me were *valens* LeConte of normal or near normal size. As with other Mexican *valens*, the El Salto specimens may construct parental tunnels that are linear, of the cave type, or a combination of these, and the frontal area of the head may be quite different from that seen in specimens from the United States and Canada. After examining the holotype and several paratypes of *rhizophagus*, the holotype and several thousand other specimens of *valens*, including several hundred from Mexico, Guatemala, and Honduras, I am able to recognize only one species. There is a certain amount of variability in the frons in all areas, but these intergrade to such a degree that geographical races are difficult if not impossible to characterize.

Gymnochilus consocius (Blandford), n. comb.

Problechilus consocius Blandford, 1897, Biol. Centr. Amer., Coleopt. 4(6):171 (Holotype, male; Cerro Zunil, Guatemala; British Mus. Nat. Hist.).

Problechilus trimaculatus Schedl, 1935, Arch. Institut. Biol. Veget. 2:91 (Holotype, female; Venezuela, probably Colonia Tovar; Schedl Coll.). *New synonymy*

The holotypes of *consocius* Blandford and *trimaculatus* Schedl were compared to 102 specimens of this species from Venezuela. Approximately 90 percent of the specimens match the characters of *consocius* very well. In the type of *trimaculatus* the discal striae are not at all impressed and the stria punctures are much smaller and less strongly impressed than expected and the color is more nearly reddish brown. About 10 percent of my Venezuelan material exhibits variations that completely bridge the gap in characters between the extremes. For this reason, Schedl's name must be placed in synonymy.

Gymnochilus minor (Blandford), n. comb.

Problechilus minor Blandford, 1897, Biol. Centr. Amer., Coleopt. 4(6):172 (Syntypes; Guatemala City, Guatemala; British Mus. Nat. Hist.).

Problechilus varius Schedl, 1951, Dusenja 2:86 (Holotype, female; Mexico; Schedl Coll.). *New synonymy*

Eight syntypes of *minor* (Blandford) and the holotype of *varius* Schedl were examined and compared to several series in my collection. The holotype of *varius* is a typical female of this species.

Gymnochilus zonatus Eichhoff

Gymnochilus zonatus Eichhoff, 1867, Berliner Ent. Zeitschr. 11:399 (Holotype, sex?; Colombia; lost with Hamburg Mus.).

Meringopalpus fallax Hagedorn, 1905, Bull. Mus. Paris 10:547 (Holotype, male; Venezuela, by Moritz, presumably Caracas or Colonia Tovar; Paris Mus.); Eggers, 1932, Wiener Ent. Zeit. 49:226. *Synonymy*

Problechilus freyi Schedl, 1966, Ent. Arb. Mus. Frey 17:103 (Holotype, female; Rancho Grande near Maracay, Aragua, Venezuela; Frey Mus.). *New synonymy*

Eggers compared the holotypes of *Gymnochilus zonatus* Eichhoff and *Meringopalpus fallax* Hagedorn and concluded that they were synonymous. Since the type of *zonatus* (3.3 mm) was subsequently lost in the destruction of the Hamburg Museum, Eggers's observation is accepted as correct. The male holotype of *fallax* (3.2 mm) and the female holotype of *freyi* (Schedl) (2.8 mm) were examined and were found to represent the same species. This species is almost identical to *consocius* (Blandford), but it is distinguished by the slightly larger size, by the less strongly impressed male frons, by the more strongly convex female frons, by the reticulate surface among the asperities on the anterior half of the pronotum, by the more coarsely punctured basal fourth of the pronotum, and by the slightly longer elytral vestiture.

Hypothenemus areccae (Hornung)

Bostrichus areccae Hornung, 1842, Stett. Ent. Zeit. (Lectotype, female; in Betel palm nuts presumably of East Indian origin; Berlin Zool. Mus., present designation).

Hypothenemus vafer: Wood, 1972, Great Basin Nat. 32:52.

As indicated in the above reference to my recent partial review of the synonymy of this species, there has been much confusion concerning the identity of *areccae* Hornung. The confusion was created by Eggers when he labeled specimens of both *areccae* and *cruditus* Westwood as having been compared to the "type." Two syntypes of *areccae* in the Berlin Zoologisches Museum are of the species I have referred to as *areccae* (= *vafer* Blandford, *fungicola* Eggers, *hispidus* Eggers, etc.). The first of those syntypes has the impressed frons partly obscured by frass; therefore, the second syntype is here designated as the lectotype of *areccae* Hornung, as indicated above.

This species is common in seeds and fruits, although it is also able to breed in twigs, bark, and other materials. Apparently it is native to the Indo-Malayan region; *cruditus* is less common in seeds and fruits and was not introduced into the Indo-Malayan region until about a half century after *areccae* was described.

Hypothenemus eruditus Westwood

Hypothenemus eruditus Westwood, 1836, Trans. Ent. Soc. London 1(1):34 (Syntypes; England).

Cryphalus obscurus Ferrari, 1867, Die Forst- und Baumzuchtsschädlichen Borkenkäfer, p. 17 (Holotype, female; Cuba; Vienna Mus.). *New synonymy*

Although *Cryphalus obscurus* Ferrari has been considered a junior homonym of a Fabricius species, the species has never been clarified. The female holotype was examined. It has the entire frontal area immersed in glue, but other features clearly indicate that it is a normal specimen of *cruditus* Westwood.

Micracis grandis Schedl

Micracis grandis Schedl, 1948, Rev. de Ent. 19:575 (Holotype, female; San José de Itepec, Chiapas, Mexico; Schedl Coll.).

Micracis costaricensis Wood, 1969, Brigham Young Univ. Sci. Bull., Biol. Ser. 10(2):39 (Holotype, female; Volcan Poas, Heredia, Costa Rica; Wood Coll.).
New synonymy

The female holotypes of *grandis* Schedl and *costaricensis* Wood were compared directly to one another and to series from Honduras and Costa Rica. Only one species is represented by this material.

Micracis swainei Blackman

Micracis swainei Blackman, 1920, Mississippi Agric. Expt. Sta. Tech. Bull. 9:32 (Lectotype, female; Iuka, Mississippi; U.S. Nat. Mus., designated by Wood, 1963, Great Basin Nat. 33:178).

Micracis robustus Schedl, 1948, Rev. de Ent. 19:576 (Holotype, male; Esmeralda, Chiapas, Mexico; Schedl Coll.). *New synonymy*

Micracis pygamaeus Schedl, 1948, Rev. de Ent. 19:577 (Holotype, male; Huehuetán, Chiapas, Mexico; Schedl Coll.). *New synonymy*

The male holotypes of *robustus* Schedl and *pygamaeus* Schedl were compared directly to male specimens from the same series as my homotypes of *swainei* Blackman; they are of the same species. More than 500 specimens of this species from New York to Honduras were examined. The holotype of *robustus* is of normal size (1.8 mm) and is badly rubbed; the holotype of *pygamaeus* is near the lower limits of size (1.4 mm) and has the vestiture in good condition. The "second specimen" of *pygamaeus*, mentioned in the original description, is a female with the epistomal brush of setae that is characteristic of this species.

Microcorthylus parvulus Ferrari

Microcorthylus parvulus Ferrari, 1867, Die Forst- und Baumzuchtschädlichen Borkenkäfer, p. 58 (Holotype, male; Venezuela, probably Colonia Tovar; Vienna Mus.).

Pterocyclon exile Eichhoff, 1878, Mém. Soc. Roy. Sci. Liège (2) 8:451 (Holotype, male; Nova Grenada; Brussels Mus.). *New synonymy*

The male holotypes of *parvulus* Ferrari and *exile* (Eichhoff) were examined and compared directly to my material. In all, 159 specimens from Costa Rica to Colombia and Venezuela were examined. Following a detailed study of the genus from these and neighboring area, it was concluded that only one species was represented by this material. Minute variation occurs on the frons; other characters are constant.

Monarthrum bicolor (Ferrari), n. comb.

Corthylus bicolor Ferrari, 1867, Die Forst- und Baumzuchtschädlichen Borkenkäfer, p. 56 (Holotype, female; Venezuela, probably Colonia Tovar; Vienna Mus.).

Corthylus signatus Ferrari, 1867, Die Forst- und Baumzuchtschädlichen Borkenkäfer, p. 56 (Syntypes, male; Venezuela, probably Colonia Tovar; Vienna Mus.). *New synonymy*

Pthorius edentatus Hagedorn, 1905, Bull. Mus. Paris 10:549 (Holotype, male; Colonia Tovar, Venezuela; Paris Mus.). *New synonymy*

The holotypes of *bicolor* (Ferrari) and *edentatus* (Hagedorn) and the two male syntypes of *signatus* Ferrari were examined and compared directly to my material. The female frons is very distinctive, thus making this species easily identified. It is common at high elevations in Colombia and Venezuela. Since *bicolor* and *signatus* were taken in Venezuela in 1858 by Moritz, the type localities apparently are at or near the Moritz home at Colonia Tovar, Aragua, Venezuela. The male declivity varies slightly in certain series in its steepness and in the abruptness of the basal and lateral margins. Blandford's label on the syntypes of *signatus* erroneously identified them as *Monarthrum chapuisii* Kirsch.

Monarthrum bicoloratum, n. n.

Monarthrum bicolor Wood, 1968 (nec. Ferrari, 1867), Great Basin Nat. 28:4 (Holotype, male; Mile 10 on the Bartica-Potaro Road, British Guiana; British Mus. Nat. Hist.).

The transfer of *Corthylus bicolor* Ferrari to *Monarthrum* (above) made a junior homonym of *Monarthrum bicolor* Wood. The new name *bicoloratum* is proposed as a replacement name for *bicolor* Wood.

Monarthrum consimile (Blandford), n. comb.

Pterocyclon consimile Blandford, 1904, Biol. Centr. Amer., Coleopt. 4(6):275 (Holotype, female; Volcan de Chiriqui, Panama; British Mus. Nat. Hist.).

Pterocyclon pseudosulcatum Schedl, 1935, Rev. de Ent. 5:348 (Holotype, male; Vara Blanca, Heredia, Costa Rica; Schedl Coll.). *New synonymy*

Series of specimens containing both males and females from the type localities of both *consimile* (Blandford) and *pseudosulcatum* (Schedl) were collected and compared to the holotypes of these species. The holotype of *consimile* is the female, and *pseudosulcatum* is the male of the same biological species; consequently, Schedl's name is placed in synonymy.

Monarthrum egenum (Blandford), n. comb.

Pterocyclon egenum Blandford, 1904, Biol. Central Amer., Coleopt. 4(6):280 (Holotype, female; San Juan, Verapaz, Guatemala; British Mus. Nat. Hist.).

Brachyspartus bisetosus Schedl, 1954, Dusenya 5:38 (Syntypes, female; Rio Caraguata, Matto Grosso, Brazil; Schedl Coll., etc.). *New synonymy*

This species is common in *Inga* and other leguminous trees from Guatemala to Brazil. Females from Costa Rica were compared to the holotype of *egenum* (Blandford), to two topotypic female syntypes of *bisetosus* (Schedl), and to several series from Costa Rica, Colombia, and Brazil. Only one species is represented by this material. Schedl's males of *bisetosus* actually are females with frontal setae; his females lack part or all of these setae.

Monarthrum fimbraticorne (Blandford)

Pterocyclon fimbraticorne Blandford, 1904, Biol. Centr. Amer. Coleopt. 4(6):285 (Holotype, female; Purula, Verapaz, Guatemala; British Mus. Nat. Hist.).

Pterocyclon turbinatum Schedl, 1961, Pan Pacific Ent. 37:230 (Holotype, male; Cordoba, Veracruz, Mexico; California Acad. Sci.). *New synonymy*

The female holotype of *fimbraticorne* (Blandford) was compared to representatives of several series of this species from Costa Rica. Additional long series have been taken in Venezuela and one additional specimen was seen from Guatemala. Males of these series were compared directly to the male holotype of *turbinatum* (Schedl). The type of *turbinatum* is rather small for this species, but males of similar small size occur throughout the range of this species.

Monarthrum gnarum (Schedl), n. comb.

Pterocyclon gnarum Schedl, 1950, Dusenja 1:169 (Holotype, female; Mexico; Schedl Coll.).

Amphicranus spinatus Bright, 1972, Canadian Ent. 104:1383 (Holotype, male; 15 km or 32 miles S Valle Nacional, Oaxaca, Mexico; Canadian Nat. Coll.).
New synonymy

The holotype of *Pterocyclon gnarum* Schedl is a female, not a male as stated in the original description. This holotype was compared to a topotypic female paratype of *Amphicranus spinatus* Bright and to another female from Hidalgo. The holotype, allotype, and other paratypes of *spinatus* were also examined. It is now clear that all represent one species that is very closely related to *praeruptum* (Blandford).

Monarthrum validum (Ferrari), n. comb.

Corthylus validus Ferrari, 1867, Die Forst- und Baumzuchtsschädlichen Borkenkäfer, p. 55 (Lectotype, male; Mexico; Vienna Mus., present designation).

Amphicranus mexicanus Eggers, 1931, Ent. Blätt. 27:18 (Holotype, male; Mexico; Berlin Zool. Mus.). *New synonymy*

Pterocyclon jalapae Schedl, 1939, Mitt. Münchn. Ent. Ges. 29:584 (Holotype, male; Jalapa, Veracruz, Mexico; Schedl Coll.). *New synonymy*

The name *Corthylus validus* Ferrari was based on a male from Mexico, and a female from Venezuela. Blandford (1904, Biol. Centr. Amer., Coleopt. 4(6):271) transferred the female to another species. The male is here designated as the lectotype of *validus*. This lectotype and the male holotype of *Amphicranus mexicanus* Eggers were compared directly to my series from Costa Rica. Only one species is represented by this material; it occurs from Mexico to Panama. Later, my Costa Rican specimens were compared directly to the holotype of *Pterocyclon jalapae* Schedl and were also found to be identical.

Phloeoborus scaber Erichson

Phloeoborus scaber Erichson, 1836, Archiv. Naturgesch. 2(1):55 (Syntypes; Brazil; Berlin Zool. Mus.).

Phloeoborus opacithorax Schedl, 1940, Arb. Morph. Taxon. Ent. Berlin-Dahlem

7:205 (Syntypes; Panzos, Guatemala; Institut für Pflanzenschutzforschung Kleinmachnow). *New synonymy*

The female syntypes of *opacithorax* Schedl have the eyes slightly more narrowly spaced and the elytral vestiture stouter than do the types of *scaber* Erichson. The spacing of the eyes varies throughout the range of this species. The elytral vestiture becomes longer and stouter over a gradual cline from northern South America to southern Mexico, although there is considerable variation within series; and the elytral crenulations also become narrower, more numerous, and confused over the same cline. While Brazilian and Guatemalan specimens may be rather strikingly different, intergradation is such that distinctive races cannot be separated.

Phloeosinus serratus (LeConte)

Hylesinus serratus LeConte, 1868. Trans. Amer. Ent. Soc. 2:170 (Holotype, male; Middle States; Mus. Comp. Zool.).

Phloeosinus rugosus Swaine, 1917. Dom. Canada Dept. Agric. Ent. Br. Tech. Bull. 14(1):9 (Lectotype, female; Scaffold Meadow, Sequoia N.F., California; Canadian Nat. Coll., 9259, designated by Bright, 1967, Canadian Ent. 99:677). *New synonymy*

The female lectotype of *rugosus* Swaine lacks tubercles on declivital interstriae 2; it is also rather small (2.6 mm). The two female paratypes in the Canadian National Collection both have tubercles on declivital interstriae 2. It is clearly evident that all three specimens fall within the range of variation of *serratus* (LeConte); consequently, *rugosus* must be placed in synonymy under the older name.

Phloeotribus setulosus Eichhoff

Phloeotribus setulosus Eichhoff, 1868. Berliner Ent. Zeitschr. 12:149 (Lectotype, male; Colombia; Brussels Mus., designated by Wood, 1973, Great Basin Nat. 33:182).

Phloeotribus rudis Eichhoff, 1868, Berliner Ent. Zeitschr. 12:149 (Syntypes?: male; Brazil; lost with Hamburg Mus.?). *New synonymy*

Phloeotribus sodalis Blandford, 1897. Biol. Centr. Amer., Coleopt. 4(6):168 (Lectotype, male; Cerro Zunil, Guatemala; British Mus. Nat. Hist., present designation). *New synonymy*

Phloeotribus bolivianus Eggers, 1933. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat. Paris, Mem. 1:5 (Holotype, male; Cochabamba, Bolivia; U.S. Nat. Mus.). *New synonymy*

The holotypes of *setulosus* Eichhoff and *bolivianus* Eggers, the lectotype of *sodalis* Blandford, and two specimens of *rudis* Eichhoff that were identified by Eichhoff and deposited in the Chapuis collection were all compared directly to series of this species in my collection and were found to represent one species. The two specimens of *rudis* probably are unmarked syntypes and evidently represent the only reasonably authentic representatives of *rudis* in existence. The first specimen in Blandford's series, a male from Cerro Zunil, is here designated as the lectotype of *sodalis* Blandford. This specimen was previously labeled as the type, but it was never so designated.

Pycnarthrum reticulatum Schedl

Pycnarthrum reticulatus Schedl, 1940, An. Esc. Nac. Cienc. Biol., Mexico 1:355 (Lectotype, female; Tonalá, Chiapas, Mexico; Schedl Coll., present designation).

Pycnarthrum fici Wood, 1971, Brigham Young Univ. Sci. Bull., Biol. Ser. 15(3): 11 (Holotype, male; 5 km W El Pino, Merida, Venezuela; Wood Coll.).
New synonymy

A female of *reticulatus* [sic] Schedl in the Schedl collection, from Tonalá, Chiapas, has been labeled as the "Type" of this species by its author, although it has never been so designated. I here designate that female as the lectotype of *reticulatus*. This lectotype was compared directly to the holotype of *fici* Wood. Only one species is represented by this material.

Scolytodes rugicollis (Schedl), n. comb.

Hexacolus rugicollis Schedl, 1940, Arb. Morph. Taxon. Ent. Berlin-Dahlem 7:205 (Lectotype, female; Hamburgfarm on Río Reventazon, Limón, Costa Rica; Schedl Coll., present designation).

Scolytodes plicatus Wood, 1969, Brigham Young Univ. Sci. Bull., Biol. Ser. 10(2):21 (Holotype, female; 25 km SE Guapiles, Limón, Costa Rica; Wood Coll.). *New synonymy*

Schedl named *Hexacolus rugicollis* from a syntypic male and a female mounted together on the same microcard. In the original description the sexes were reversed. I designate the female syntype, marked on the microcard by a male symbol, as the lectotype of Schedl's species. This lectotype was compared directly to the holotype of *Scolytodes plicatus* Wood and was found to represent the same species.

Xylosandrus morigerus (Blandford)

Xyleborus morigerus Blandford, 1894, Insect Life 6:264 (Syntypes; intercepted in England from *Dendrobium* orchids imported from New Guinea; British Mus. Nat. Hist.).

Xyleborus luzonicus Eggers, 1923, Zool. Meded. 7:174 (Lectotype, female; Mt. Makiling, Insel Luzon, Philippinen; U.S. Nat. Mus.; designated by Anderson and Anderson, 1971, Smithsonian Contrib. Zool. 94:18). *New synonymy*

Six syntypes of *morigerus* (Blandford) were compared directly to my specimens; these were later compared directly to the lectotype of *luzonicus* Eggers. Only one species is represented by this material.

Araptus sobrinus, n. sp.

This species is distinguished from *schwarzi* (Blackman) by the weakly convex, more sparsely punctured female frons, by the different elytral vestiture, and by the more deeply, more broadly sulcate declivity.

FEMALE.—Length 2.3 mm (paratypes 1.9-2.3 mm), 2.5 times as long as wide; color reddish brown.

Frons weakly convex; surface almost smooth, punctures fine, moderately abundant; vestiture of fine, short, moderately abundant

hair; frons about as in male *schwarzi* except for epistomal area.

Pronotum about as in *schwarzi*, except disc with more numerous impressed points and punctures slightly larger and more nearly circular (punctures in *schwarzi* oval to crescent-shaped).

Elytra as in *schwarzi* except with abundant impressed points (usually absent in *schwarzi*), declivity more deeply, more broadly impressed, and vestiture greatly reduced. Strial setae entirely absent, interstitial setae rare on disc, sparse on declivity except at sides. (In *schwarzi* interstitial rows of erect setae usually extend to elytral base and small strial hairs occur on disc and declivity.)

MALE.— Similar to female, except frons more strongly convex above, slightly impressed on lower half; epistoma broadly, shallowly emarginate about as in male *schwarzi*.

TYPE LOCALITY.— Siguatepec, Honduras.

TYPE MATERIAL.— The female holotype, male allotype, and 10 paratypes were taken at the type locality on 25-V-1972, in rust cones on *Pinus oocarpa*, by R. Billings.

The holotype, allotype, and paratypes are in my collection.

Dendroctonus mexicanus Hopkins

This species was placed in synonymy (Wood, 1963, Great Basin Nat. 23:41) under *Dendroctonus frontalis* Zimmermann, because series of this species from the southwestern United States could not be distinguished from variable series from Honduras. When it was recently noticed that two separate emergences took place in Honduras from the same logs, it became apparent that two distinct biological species occur in Honduras and that both were responsible for the epidemic of 1964. Once this event was apparent, and pure samples from each emergence were studied, the variable Honduras material was easily sorted into two groups, one having poorly developed to obsolete interstitial crenulations (*frontalis*) and a slightly larger, darker form with moderate to rather coarse interstitial crenulations. The former, *frontalis*, tends to occur at low elevations, less than 700 m, the latter at elevations above 700 m. They may occur in the same trees in the area of altitudinal overlap. The latter form appears to be of the same species as occurs throughout Mexico; consequently, the name *mexicanus* is removed from synonymy to designate it. Specimens from Arizona and New Mexico appear to be intermediate but are tentatively grouped with *frontalis*. Ultimately it may be necessary to reduce *mexicanus* to subspecific rank, due to intergradation in the northern area, even though the two populations behave as valid species in Honduras.

In 1970 I received specimens of an additional Guatemalan species in the *frontalis* complex, from E. W. Clark. Since then Dr. J. P. Vité and his associates have investigated Mexican and Central American *Dendroctonus* more thoroughly. Their results are being published elsewhere. It appears that *mexicanus* originally extended

only as far south as Chiapas and was replaced in Guatemala by *vitei*, described below. Both *mexicanus* and *frontalis* appear to have been introduced into Honduras at a comparatively recent date, where they jointly caused epidemic losses of pine a decade ago. Apparently neither species has penetrated the range of *vitei*.

Dendroctonus vitei, n. sp.

This species is distinguished from *mexicanus* Hopkins by the slightly larger average size, by the much darker color, and by other differences cited below. The most reliable characters for distinguishing it are the pronotal granulation, the declivital characters, the frons, and the seminal rod.

MALE.— Length 3.4 mm (paratypes 2.6-4.1 mm) (exclusive of head), 2.2 times as long as wide; color almost black.

Frons similar to *mexicanus*, except epistomal process wider (67 percent of epistomal width, 58 percent in *mexicanus*), its lateral arms much more strongly elevated; area from epistomal process to lateral summits on frons more strongly, more broadly impressed (often subconcave), more finely sculptured; largest tubercles at and near lateral summits less numerous, smaller than in *mexicanus*.

Pronotum similar to that of *mexicanus*, except punctures averaging much smaller, closer, interspaces averaging less than half diameter of a puncture; interspaces over most of surface minutely granular, subshining, smooth shining areas usually restricted to less than one-fifth of total surface (in *mexicanus* interspaces average more than half diameter of a puncture, their surface smooth, brightly shining over almost entire surface, granulation rare and restricted; small tubercles sometimes occur in lateral areas). Vestiture more uniformly distributed, slightly coarser and longer than in *mexicanus*.

Elytra similar to those of *mexicanus*, except discal striae less strongly impressed, punctures averaging smaller, obscurely impressed to obsolete in most specimens (larger and rather distinctly impressed in most specimens of *mexicanus*); interstrial crenulations narrower, lower, more numerous, rarely as much as one-third width of an interstriae (in *mexicanus* about one-third of crenulations at least half as wide as an interstriae, a few extend entire width of an interstriae). Declivity with striae feebly if at all impressed, punctures usually obsolete (striae and punctures rather strongly impressed in *mexicanus*); interstriae feebly if at all convex, crenulations less numerous and much smaller than in *mexicanus*. Vestiture slightly more abundant and coarser than in *mexicanus*, particularly at sides.

FEMALE.— Similar to male, except epistomal process narrower, not as high, frontal summits more poorly developed, usually not tuberculate; pronotal callus more poorly developed than in female *mexicanus*.

TYPE LOCALITY.— Patzún, Guatemala.

TYPE MATERIAL.— The male holotype, female allotype, and 26 paratypes were collected at the type locality on 19-IX-1974, from

Pinus tenuifolia, by J. P. Vité. Two hundred and sixty paratypes all with their abdomens dissected bear the same data except they were taken 22-V-1974; 50 paratypes are from the same locality taken 9-X-1974 from "*P. maximinoi*" by R. Lühl. Ten paratypes are from the same locality, taken on 12-III-1974, and four paratypes are from the same locality, taken on 14-X-1973, by J. P. Vité (all dissected). Three paratypes are from Puente Tzantzir, Sololá, Guatemala, 2-II-1972, from *Pinus montezuma*, by E. W. Clark.

Vité and his associates are studying the biology and behavior of the *frontalis* complex and adding significant information about these species (Vité, Islas, Renwick, Hughes, and Kliefoth, 1974. *Zeit. Angew. Ent.* 75:422-435). They will report additional biological and biochemical characters of this species. Their illustration of the male seminal rod (Fig. 2E on p. 426) is significant.

In June 1974 it was discovered that both Vité and I had independently prepared a description of this species. He kindly consented to withdraw his manuscript. This species is named in recognition of his numerous contributions to our understanding of these important insects and for the independent discovery of this species.